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EXAMINER

CHEN, TE Y

ART UNIT PAPER NUMBER

2161

DATE MAILED: 03/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/820,451

**Applicant(s)**

CU ET AL.

**Examiner**

Susan Y Chen

**Art Unit**

2161

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Response to Appeal Brief***

This is in response to amendment filed on 10/06/2003 (paper # 7).

***Summary of Appeal Conference findings***

An appeal conference has been held on March 24, 2005, the following is summarized as the conference findings:

- 1) The 35 USC § 112 objections and rejections on record are proper.
- 2) The Specification should be objected to under 35 USC 112, 1<sup>st</sup> paragraph for lack of enablement.
- 3) U.S. Patent No. 6,289,336 issued to Melton et al. render the claimed invention unpatentable pursuant to 35 U.S.C. § 103(a). Claims rejected under 35 U.S.C. § 102(e) should be change to 35 U.S.C. § 103(a); and
- 4) Prosecution on the merits shall be reopened based on the altered grounds for rejection.

Based on the March 24, 2005 Appeal conference decision, prosecution is hereby reopened and pending claims 1-21 are rejected as follows.

***Reopen Prosecution***

In view of the Appeal Brief filed on 07/02/2004, PROSECUTION IS HEREBY REOPENED. A new ground rejection is set forth below.

Art Unit: 2161

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

### ***Specification***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of 37 CFR 1.71(a)-(c):

(a) The specification must include a written description of the invention or discovery and of the manner and process of making and using the same, and is required to be in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which the invention or discovery appertains, or with which it is most nearly connected, to make and use the same.

(b) The specification must set forth the precise invention for which a patent is solicited, in such manner as to distinguish it from other inventions and from what is old. It must describe completely a specific embodiment of the process, machine, manufacture, composition of matter or improvement invented, and must explain the mode of operation or principle whenever applicable. The best mode contemplated by the inventor of carrying out his invention must be set forth.

© In the case of an improvement, the specification must particularly point out the part or parts of the process, machine, manufacture, or composition of matter to which the improvement relates, and the description should be confined to the specific improvement and to such parts as necessarily cooperate with it or as may be necessary to a complete understanding or description of it.

The specification is objected to under 37 CFR 1.71 because the specification failing to provide an adequate written description of the invention.

Initially, the examiner notes the separate nature of the written description requirement as contrasted to the enablement requirement of the first paragraph of 35 U.S.C. 112. See *In re Barker*, 559 F.2d 588, 194 USPQ 470 (C.C.P.A. 1977). The function of the written description requirement is to ensure that the inventor had possession, as of the filing date of the application here relied on, of the specific subject matter later claimed by him. See *In re Edwards*, 568 F.2d 1349, 196 USPQ 465 (C.C.P.A. 1978). The question is not merely one of literal support for the questioned claim language in the original disclosure, it is one of the disclosure of concepts. See *In re Wilder*, 736 F.2d 1516 222 USPQ 369 (Fed. Cir. 1984) and *In re Kaslow*, 707 F.2d 1366, 217 USPQ 1089 (Fed. Cir. 1983). It appears that applicants has attempted to incorporate some generalized scalar function and conventional column function into their specification to thereby support claims to any combination or permutation of features therefrom. The fact that features are mentioned individually does not mean that applicants have invented anything. There must be some evidence within the application filed that applicants were in possession of the claimed combinations. Incorporation by reference of a dictionary does not constitute disclosure of a novel which uses only words from that dictionary.

Similarly, without more, the stand alone generalized scalar function and the conventional column function do not provide support for combining any features, regardless of what applicants may teach.

To be effective in showing possession of the invention, an incorporation of the structures, links and mechanism derived from the generalized function to simulate the

conventional column function environment which specifically contribute to the claimed features and for what purpose should be disclosed.

***Specification Objection (continue)***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification is objected to under 37 CFR 1.71 because the specification failing to provide an enabling description of the invention.

The instant specification fails to disclose the actual, practical steps of a simulation mechanism and the corresponding data structures for simulating the claimed scalar function with row parameters into conventional column parameter environment. Particularly, the submitted specification merely recited allowing a user to specify a row for a generalized scalar function to simulate a column environment for a column function to be performed on the row without disclosing how to activate the claimed generalized scalar function to simulate which column functions for what kind of row inputs and by what means a user of instant invention can perform the claimed operation. Furthermore, the specification also fails to describe a structure to be utilized to map the generalized function with a plurality of columns of a row into the claimed column function parameter. Moreover, it fails to disclose the technique to initialize, evaluate and finalize the claimed column function. As such, the specification does not enable any skilled person in the art

to which it pertains, or with which it is most nearly connected, to make and, or, use the claimed invention.

If applicants continue to prosecute the application, revision of the specification and claims to present the application in proper form is required. While an application can be amended to make it clearly understandable, no new subject matter can be added that was not disclosed in the application as originally filed.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-21, are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

As to claims 1, 8 and 15, applicants fail to disclose the claimed simulation mechanism and the corresponding data structures for simulating the claimed scalar function with row parameter into conventional column parameter environment. Particularly, the submitted specification fails to show the form of a generalized scalar function. It also fails to describe a structure to be utilized to map the generalized

function to a plurality of columns of a row into the claimed column function parameter. Furthermore, it fails to disclose the technique to initialize, evaluate and finalize the claimed column function. As such, the specification does not enable any skilled person in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention claimed.

As to claims 2-7, 9-14 and 16-21, these claims have the same defect as their base claims, hence are rejected for the same reason.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claims 1, 8, and 15, it is unknown what is the structure of the claimed generalized scalar function? How could this generalized function allow the at least one row to be provided to the claimed column function as though the at least one row was a column [i.e., a row may represent a record of a database table, which may comprise a plurality of columns. In this case, it is not understood how to map the plurality of columns into the claimed "a column"?].



As to claims 6, 13, and 20, it is unsure what was initialized to the claimed first entry? What was evaluated on each entry of the claimed at least one row? What was finalized after the evaluation of the last entry of the at least one row? What is the purpose to perform the claimed initialization, evaluation, and finalization phases?

As to claims 2-7, 9-14 and 16-21, these claims have the same defects as their base claims, hence are rejected for the same reasons.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Melton et al. (U.S. Patent No. 6,289,336) in view of Mozes (U.S. Patent No. 6,691,099).

As to claim 1, 8 and 15, Melton et al. (hereinafter referred as Melton) discloses a database query system with means, method and computer program product as claimed by applicant, to perform query in a structure query language (SQL) environment [e.g., the unit (100, Fig. 1)] comprising the following functions:

a) an interface for allowing a user to specify row argument for a generalized scalar function [ e.g., The user interface (106, Fig. 1) allows a user of the system to mark a SQL statement execution request (152, Fig. 2) as cited in the standard SQL

statement " SELECT ROWS SINCE (THIS (LOWTEMP) > IOWTEMP)..." (col. 12, lines 44-58), wherein the Rows Since(search condition) sequence function reads the claimed generalized scalar function (e.g., Abstract; col. 1, lines 13-22)];

b) a SQL compiler simulates a column environment for the at least one row using the generalized scalar function to allow the at least one row to be provided to the column function as though the at least one row was a column [e.g., the SQL compiler unit (118, Fig. 1) and associated texts specifically at col. 15, lines 33-57 and the normalization processing performed by the compiler upon the set of Running and Moving Sequence Functions at col. 11, line 6 – col. 12, line 32; col. 13, Table 7 and associated texts].

c) a Central Processing Unit (CPU) coupled to SQL executor to perform the column function operation for producing at least one output on a number of entries [for example, CPU (102, Fig. 1) coupled to SQL executor (120, Fig. 1) which interprets on the set of compiled definition blocks (150, Fig. 1) to build at least one execution tree (138, Fig. 1) for the CPU to execute the entries of the tree as specified at col. 16, lines 27-62].

Melton fails to disclose a specific instance of a generalized scalar function linked to a column function (or running and moving sequence function) as specified by a user.

However, Mozes discloses a specific instance of a generalized scalar function linked to column functions as specified by a user [e.g., Fig. 2 and associated texts; the initialize\_gather\_bits ( ) function at col. 6, lines 52-67; col. 7, lines 26 - 34].

Melton and Mozes are in the same fields for optimizing database query processing by transforming a row based generalized scalar function to create histogram (or history buffer) for simulating the column function processing on complex query statements. Therefore, with the teachings of Melton and Mozes in front of him/her, a ordinary skilled person in the art at the time the invention was made, would have been motivated to modify the Melton's system with the teaching taught by Mozes, because by doing so, as suggested by Mozes the process will create a list of column usage statistics that can be stored and reused across the scalar function transformation processing for determine which columns should have histograms [e.g. col. 3, lines 11-26].

As to claims 2-3, 6-7, 9-10, 13-14, 16-17 and 20-21, the combined system further discloses the generalized scalar function fetches at least one row [e.g., Mozes: the execute\_basic () function, col. 7, lines 11-13]; and use the scalar function to simulate the column function for repeating the initialization, evaluation and finalization phases to provide an output for a dynamic number of entries in the row [e.g., Mozes: the\_evaluation\_basic () function; col. 8, line 1 - 22].

As to claims 4-5, 11-12 and 18-19, the combined system further discloses that the column function provides a maximum of each of the at least one row [e.g., Melton: the RunningMax(a); col. 10, lines 21-22] and a minimum of each of the at least one row [e.g., Melton: the RunningMin(a); col. 10, lines 19-20].

***Response to Arguments***

Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan Y Chen whose telephone number is 571-272-4016. The examiner can normally be reached on Monday - Friday from 7:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 571-272-4023. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Susan Y Chen  
Examiner  
Art Unit 2161

March 26, 2005

  
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